

**ENVIRONMENTAL FINANCIAL ADVISORY BOARD  
COST-EFFECTIVE ENVIRONMENTAL MANAGEMENT WORKGROUP  
MARCH 5, 2001 PUBLIC MEETING  
NATIONAL PRESS CLUB  
WASHINGTON, DC**

**SUMMARY NOTES OF KEY POINTS**

**Morning Session 9:00 am - 12:30 pm**

**TOPIC:** Public Sector Initiatives to Increase Efficiency and Overall Performance in the Water and Wastewater Industry .

Meeting brought to order by George Ames, Acting DFO

Michael Deane, CEM Workgroup Chair

- Welcomed attendees and outlined structure and topics of the two sessions.

Billy Turner, CEM member and organizer of the session.

- Introduced speakers and reviewed morning's agenda
- Noted significant changes taking place in public sector
- Public utilities have accepted the challenge of privatization; their culture is changing

**Gary Westeroff, Malcom Pirnie: *The Changing Utility***

- Spoke via teleconference from New York, NY.
- Covered the changing and the changed utility.
- Identified several drivers as the "momentum for change:" Rate and cost control; political influences; "threat" of privatization; massive awareness and new leadership.
- Utilities of "every significant size" are succeeding in improving effectiveness and efficiency.
- "Actions of change" include leadership commitment; focus on customers; strategic use of technology (especially IT); stress on quality; and improved credibility with customers.
- New leadership focuses in performance and customer satisfaction and more cost-effective approaches.
- Three areas of emphasis regarding technology are process control plans to improve productivity, control operations and monitor performance. Billy Turner strongly reinforced this point, especially with respect to improved technologies driving improved monitoring and reduced staff requirements.
- Widespread staff reduction underway.

- Key balance must be struck between effectiveness and efficiency, for example, reducing cost may come at the expense of reliability; public utilities are more conservative/better suited in striking this balance.
- Briefly discussed five models from publicly owned and operated, though complete privatization and motivational difference between the public and private sectors.
- Cited several examples of public utility successes, including rising credit rating for the water and wastewater industry; 13:1 upgrades to downgrades.
- Suggested a “Framework for Consideration” include ensuring fair and open evaluation of all alternatives; moving cautiously on privatization because of limited experience (long term issues vs short term savings); and if privatization is selected as an alternative the selection of a contractor should be an open and fair process.

## **Comments**

- Industry going through fundamental change in terms of the improvements in effectiveness of utilities in performing their core missions and the efficiency of their operations.

## **John Huber, Louisville Water Company: A WWA/WEF QualServe Program**

- Spoke via teleconference from Louisville, KY.
- Gave an overview of the QualServe Program developed by the AWWA and WEF for water/wastewater utilities
- Program seeks continuous improvement and customer satisfaction, built around self-assessment, peer review and benchmarking - and quality improvement programs that have worked well.
- Must accommodate organizational responsibilities - customer relations, business planning and management, organizational development, wastewater operation, and water supply - with which there are 26 business process categories.
- Thorough preparations are essential, including support from the top, representative teams, credible measures of success, and access to information.
- QualServe offers staff assistance providing help in all aspects.
- The self assessment involves a confidential, comprehensive survey, to involve staff and share what they know.
- Peer review is an objective evaluation by trained utility professionals over a 3 month period, with a summary report showing strengths and opportunities for improvement; peer reviewers are senior executives from utilities across nation; attend training; have no vested interest in participating utilities.
- Benchmarking uses metrics to compare results of practices and to improve performance; a clearinghouse has been established; will be fully developed by 2003; service include website connection to APQC services (an international benchmarking organization); training and workshops; performance indicators database; and best practices studies.

- How can utilities develop goals and controls to have freedom to act?
- To gauge and compare results the program calls for customer satisfaction surveys which feedback in to the self assessment, peer review, and benchmarking.

## Comments

- It will be a challenge to develop good standards for best practices.
- How do we maintain interest of utilities?; marketing an issue; in the original pilot 120 utilities participated; employees got very involved - can be a cultural issue.
- Is there any interface with the city council? Local utilities have the option of letting governing body know of their participation; surveys can be “scary.”
- Can the QualServe program work for all utilities? - would smaller utilities be able to take advantage of the tools/techniques? Attempt underway to adapt the program to small systems.

## Ken Rubin, PA Consultants: *AMSA/AMWA Competitiveness*

- First examine the cost structure of an average utility.  
25-35% capital program  
25-35% business support services  
30-40% core O&M
- What is the competitiveness framework? A supply chain of core organizational values (source protection, water production, transmission, treatment, distribution, and customer service) that uses a wide range of organizational services, all based on a foundation of capital programs management.
- In 1998 AMSA and AMWA began a joint initiative with case studies and regional workshops to train over 2000 managers in productivity improvement. Also began competitiveness programs in more than 150 utilities.
- Key finding: a savings of 15-30% achievable in O&M.
- Benchmarking an important tool with reducing costs of business support service, yielding up to 50 percent savings.
- AMSA/AMWA supported similar program to capture efficiencies in provision of business support services, with second handbook and series of management workshops. Similar levels of savings are attainable.
- Recently began project to develop an asset management handbook based on Australian and US experience. Also included AWWA & WEF. Bottom line of asset management is that, if properly implemented, it can generate significant reductions in capital replacement costs and also increases control over costs.
- What’s been learned using competitiveness strategies? Cited several anecdotal examples, including reduction of operating costs by 31% and reducing a \$200 million operating budget by

\$33 million.

- Compared a burdened utility with an optimized private utility. The former's burdened include inefficient work practices, overstaffing, reactive maintenance, poor management information.
- The burden gives a cost edge ranging from 25 to 35% in controllable O&M costs to the optimized private facility. However, addressing these issues, a public utility can begin to eliminate the burden and bring costs in line with those of private utilities.
- Leveling the playing field allows the public utility the flexibility to invest more in training and other worthy activities and still remain competitive with a private counterpart that still is required to provide a return to shareholders and pay taxes & fees not paid by a public utility.
- Neither model is foolproof and each depends on certain conditions being satisfied, e.g., a flexible civil service for the public utility and fair management contract for the private.
- BUT main issue: how do we assure reliable, high-quality service at affordable rates? Competition is key to low cost and high quality [it has benefitted public utilities and should be a fact of life]

## Comments

- How effective has US experience been with Nessie curves (asset management) thus far? Not that effective so far, but will improve.
- What cost reductions could we expect to see on the capital side (from asset management)? On the order of 10% .
- Modified GASB 34 approach supports asset management.

## Utility Roundtable

### Alan Manning, EMA

- Addressed "keeping a vibrant and dominant public utility sector."
- Traditional monopoly enjoyed by public utilities provided resistance to improved competitiveness, in terms of cost minimization
- Being a monopoly reinforces a bureaucratic mind set of waiting; covering and finger pointing.
- But utilities have demonstrated significant cost savings are attainable.
- Why have a dominant public utility sector?
  - protect public health and the environment
  - profit motive not present to generate decision conflicts
  - least costly
- Compared with an optimized public utility, a private will "always be 5-15% more expensive than the public..."
  - profit
  - overheads
  - performance bonds

shareholder return

taxes

- Improvements made in 203 utilities through teamwork/work practices changes, technology, PDM & WFF.
- Emphasized the importance of creating a real team from a working group as compared with pseudo teams.
- Internal resistance can be overcome by aligning around urgency, vision, and solution.
- Have to involve employees in teams to get their commitment.
- Savings beginning first year and grow rapidly with effective implementation.

Comments

- Private sector need not dominate but around 20% of public utilities for varying reasons will not be able to become competitive; these are candidates for privatization
- What then is the role of the private sector? Design-build practices are one example; outsourcing some functions has good possibilities.

### **Myron Olstein, Black and Veatch**

- Covered trends in utility management
- Performance and management are improving
- Treatment performance improved significantly
  - 1999 AMSA survey of 119 large utilities - 95% of flows are at secondary, up from 84% in 1993.
  - 24% are at tertiary.
  - heavy metals down by half in past 12 years.
- Unit staffing levels going down.
  - 30% decline in 9 years.
- Between 96-99 costs to customers match inflation; debt increased by 12%.
- Management is improving in several key ways.
  - best practices being implemented [automation; workforce flexibility]
  - more tools and assistance programs [asset management, competitiveness, benchmarking].
  - development of quality improvement programs [QualServe].
  - establishment of a benchmarking clearinghouse [40 members, with the American Productivity and Quality Center], developing common data definitions and benchmarking protocols; standardization.
  - development of EMS guidance from EPA grant to WEF and AMSA
- Long term operations contracts [con ops] may not be most efficient.
  - more savings in capital and support services.
  - operations will change due to Internet and wireless technologies.

### **Comments**

- Declining staff level would have been seen as a major negative until just recently when it has resulted from improved productivity/performance, generating major cost savings.
- Over 60% of the sample utilities were providing some type of financial assistance to poor customers, such as lifeline rates.

### **Bill Knecht, Cincinnati Water Works**

- covered the changing water utility using CWW as an example.
- developed a strategic business plan for the period 1996-2000.
- developed 10 core competencies all managers and supervisors are expected to possess.
- created a value statement focusing on customer service through: efficiency and cost-effectiveness, quality drinking water, community involvement, professionalism, and the environment.
- made major investment in technology which is viewed as a tool for reducing cost/improving customer service.
- operating and maintenance expenses remained flat for the period 1996-2000 and all revenue generated by rate increases was invested in the capital improvement program.
- reviewed financial highlights of the CWW; notably revenue increases from user fees fell considerably below the average rate of inflation.
- realized a AA+/Aa2 ratings on inaugural issue of revenue bonds; good management being a key factor.
- developing a total enterprise asset management system.
- average net income as a percent of operating revenue is 22.6%.

### **Barry Gullett, Charlotte-Mecklenburg Utilities**

- Covered CMU competition program.
- Competition seek best service at lowest cost.
- CMU largest utility in Carolinas with 185,000 service connections.
- Competition program began in 1995 with yellow pages test - looking for the service that are offered by the private sector.
- First generation contracts ran 1-5 years
- Second generation contracts run 3-10 years; now in third generation.
- Process involved proposal from firms and from public sector employees the "City bid team".
- Used an evaluation team with a privatization and competition advisory committee.
- Disinterested parties used in bidding/evaluation process; benchmarks used in evaluations.
- City staff can compete; blended best private practices with public sector advantages.
- Significant cost reductions achieved; less staff, lower energy/chemicals costs and more efficient work practices.
- Second generation focused on longer cost savings; balancing risk and costs and using larger contracts.

- Third generation will seek competitive bids where competition is real; stress benchmarking and optimization; and continue to adopt private sector approaches.
- Findings
  - city employees can compete successfully;
  - involve employees; give them the resources
  - break down internal bureaucracies
  - benchmark competitors

### **Pete Dobrolski, Malcom Pirnie**

- covered the experience of Houston with optimization, using managed competition.
- new laws/standards have raised the community profile of public utilities, requiring them to invest large amounts on new technologies.
- Houston's budgeted \$556 million for water and sewer funding in 1999.
- improved work force flexibility and training has resulted in:
  - improved productivity
  - higher morale
  - betted educated workforce
  - more efficient use of time
  - Greater reliability at less cost
- a 1996 managed competition generated \$12.7 savings at one plant over an earlier contract.
- in 1997, Houston re-engineered itself, redesigning job classifications, streamlining functions ,adopting skill based pay and increasing work flexibility.
- Between 1997-99, O&M reduced by 8% per year; personnel reduced by 15%; procedures streamlined; installed modern instrumentation and automation, and use cross functional integration.
- Typical annual saving are \$14.8 million.

### **Robert Danhauser, Charleston CPW**

- Covered the adoption of an EMS under ISO 14001 guidelines at the Charleston Department of Public Works.
- Why change is needed - aging infrastructure, tighter requirements, threat of competition, limited resources; customer issues.
- ISO 14001 provides a business framework to utilities, beginning with the evaluation of current procedures using processes to identify potential strengths and weaknesses and assisting the organization in developing long term business and environmental strategies.
- Using ISO guidelines a process was developed to evaluate performance against established objectives and to review and adjust performance.
- In two years - CPW has:
  - established a planning process

developed a structured process to implement improvements  
developed a process to implement waste minimization and pollution prevention measures.

- ISO 14001, through the EMS concept, has
  - provided a planning and management framework for improvement
  - reduced exposures to risk and liability
  - reduced O&M costs
  - increased staff skills
- CPW is the first certified utility under ISO 14001.
- Liability issues and customer concerns will promote greater use of EMS by public utilities.
- 80 utilities are considering EMS.
- But concrete incentives are needed.
- EPA's Office of Water providing grant assistance to the development of EMS guidelines for the wastewater industry.

## **Comments on Roundtable**

- How do we get the word out to smaller utilities - how do we penetrate this market - get broader application below say the top 500 utilities?
- There is no mechanism to do this - but smaller utilities will be easier to change than larger ones.
- Make greater use of rural networks, such as the Rural Water Associations; political inertia a big problem.
- Improvements in instrumentation have played a major role in achieving greater efficiencies in, for example, reducing staff required to conduct routine operations.

## **Ed Means, McGuire Environmental Consultants, Inc. - *Strategies for the Future***

- Genesis of work: public water leadership -- AWWA
- Effort involved trends papers and workshops to id. scenarios and strategies
- The final product later this year will be a *Water Utility Futures Book*
- General findings: change will be driven, but costs will grow
- About 60 trends were identified via the approach

## **Ten Most Important Trends**

1. large rate increases will be needed to replace infrastructure
2. many water utilities will have funding difficulties
3. the services that water utility must supply will grow
4. regulations and economics will drive consolidation of small utilities
5. raw water supplies will be curbed by environmental concerns
6. small treatment units and point-of-delivery devices will be important



7. economic pressures will drive utilities to continuous improvements
8. conservation and water recycling must and will increase
9. traditional utility management approaches will change
10. mergers of water and wastewater utilities with electric and gas utilities will be common

### **Other Findings and Observations**

- U.S. population will double by 2100 increasing pressure on water supplies.
- Customers will demand more service and information of water providers.
- Consumer confidence has declined and may continue to do so.
- Water infrastructure spending and household costs will grow.
- Water utility options will shrink as demands grow.
- Technology will help in alleviating future water problems especially as computers become relatively cheaper and more powerful.
- But, finding technical staff will be more difficult and more costly.
- Outsourcing will grow driven by local economics and politics.

### **Possible future scenarios**

- |                      |                          |
|----------------------|--------------------------|
| 1. Business as usual | 2. Rise of the oligopoly |
| 3. Consumers rule    | 4. Empire strikes back   |

### **Promising strategies** (appear applicable to addressing all scenarios)

- Practice good management -- quantify and articulate needs and maintain flexible approach (be willing to do what works)
- Maintain good stakeholder relations and stress customer service
- Increase community involvement and develop partnerships
- Remove impediments to efficiency
- Transform work environment via emphasis on improved recruitment, training, incentives, and pay
- Apply best available technology:
  - install automation to reduce labor and save energy
  - integrate information systems
  - use the internet to gain administrative efficiencies
  - invest in research and development to foster innovation
- Adopt total watershed management approach using such tools as demand management, conservation, reuse programs, and rate-based incentives to manage water supply needs
- In short, water utilities must operate as a business

### **Afternoon Session 2:00 pm - 4:00 pm**

TOPIC: A panel discussion of the findings and recommendations of the “Water Infrastructure Now (WIN) Report” by experts representing a range of viewpoints

- Michael Deane welcomed and introduced the panel
- Ken Kirk, Executive Director of the Association of Metropolitan Sewage Agencies, reviewed the principle findings and recommendations of the WIN Report
- Each panelist briefly outlined the position of their respective organization(s) with respect to the WIN Report.

## **PANELISTS PRESENTATIONS**

### **Ken Kirk, Association of Metropolitan Sewage Agencies**

- A new federal-state-local partnership is needed and within this relationship there is a need for federal government to play a bigger role.
- The WIN coalition held series of four facilitated discussions on addressing the issue of water infrastructure financing needs.
- WIN conclusions and suggestions:
  1. Need long-term reliable funding source -- \$57 billion over five years equally split between drinking water and wastewater
  2. Want a commission to look into long-term solutions to funding problems
  3. Give funding flexibility to the state; let them determine the grant/loan mix
- Other WIN thoughts
  1. expect 25-50 per cent to be eligible for grants
  2. expect 10-15 per cent subsidized loans
  3. let the state decide the mix/set priorities/area of focus
  4. establish consolidated state water agencies as successors to srfs
  5. lift caps on private activity bonds
  6. restrict eligibilities to core infrastructure needs
  7. establish an EPA Office of Water Infrastructure Financing
  8. commit \$250 million a year for new technologies and management practices R&D
  9. fund expanded technical assistance of \$25 million per year (EPA and Ag)
- WIN initiative only means that the federal share would be 8% of total costs.
- There have been 29 signatories to the WIN report so far.

### **Peter Cook, National Association of Water Companies**

- The cost estimates for water infrastructure needs vary widely from report to report. However, all parties agree that the costs will be large.

- A realistic expectation of federal assistance provided over the five year period described in the WIN report might be in the range of \$5-6 billion.
- The best place to invest any federal dollars would be in the replacement of existing facilities.
- The industry question, “What is affordable?”, is important and must get more attention.
- Many large systems simply do not need help, but many small systems and large ones with many poor users probably do.
- Strongly supports the idea of using a variety of financing mechanisms.
- However, grants should be used very judiciously and a strict cap/lid should be placed on their use.
- The U.S. Department of Agriculture’s Rural Utilities Service (RUS) does great affordability work.
- The quality of such work done by U.S. EPA is less impressive.
- The country must not give subsidies to systems that do not need them and must encourage the efficient use of the limited subsidies that are or become available.

### **Diane Van De Hei, Association of Metropolitan Water Agencies**

- It is very important to begin to address the water infrastructure funding/financing problem now.
- While it is true that different reports have identified different absolute levels of needs, they all agree that the financing challenge is large.
- The reason for the differences is that each of the reports have focused on different things, so comparing them is like comparing apples and oranges
- Affordability, if examined and considered, must take into account not just the costs of providing water and wastewater services, but also the cost of providing other public services.
- Most affordability arguments are just a smokescreen to avoid providing federal assistance to large systems.
- The small systems affordability issue is a red herring to divert government money away from where it will do the most good for the most people -- the large systems.
- Government should look at and adopt a new model of affordability that factors in (gives credit for) a water and wastewater system’s existing efficiency and viability.
- Government should direct its resources to areas and systems in which they will do the most good.
- Non-viable and inefficient systems (i.e., many small systems) should not be supported with government subsidies.

### **Rick Norment, National Council for Public-Private Partnerships**

- The Council supports much of the WIN report findings, particularly the recommendations concerning private activity bonds.
- It agrees with the WIN report that the nation faces a large financing challenge in meeting its significant water and wastewater infrastructure needs.

- The Council believes that an expansion in the use of private activity bonds would be of great help in meeting these environmental infrastructure needs.
- However, it does not agree with the magnitude of the grant program proposed in the WIN report.
- The Council believes that there needs to be incentives for greater efficiencies by the nation's water and wastewater systems. Grants are frequently not a good incentive, if not an outright disincentive for full cost accounting.
- Further, if significant grants were made available to the admirable state revolving loan fund programs they would use the grants extensively in lieu of loans.
- Competition drives improvements in efficiencies and grants, which will not be made available to the private sector, will make them uncompetitive.

#### **Tim Williams, Water Environment Federation**

- The Water Environment Federation's (WEF) is an organization comprised of different types of members who hold a variety of views on the WIN report.
- However, the WEF signed on to the WIN report because it highlights serious needs and makes realistic suggestions for meeting them.
- The WIN report is also very good because it clearly identifies the need for the federal role in water and wastewater infrastructure financing to grow.
- Mr. Williams expressed considerable disappointment in those who did not sign on to the WIN report.
- Since there is a budget surplus and considerable Congressional support exists for financing environmental infrastructure, the timing is right to get new and expanded federal grant assistance.
- The WIN proposal for \$57 billion in federal assistance over five years is actually a very modest one.

#### **Dawn Kristof, Water and Wastewater Equipment Manufacturers Association**

- While her association chose not to endorse the WIN report, they agree on the seriousness of the problems/needs.
- The association and its members strongly believe that a healthy marketplace is absolutely necessary for them to help provide cost-effective solutions.
- The demand for water and wastewater infrastructure technology is driven by environmental regulations and enforcement.
- Depending on uncertain, year-to-year, federal funding often results in a lot of undesirable stop and go activity by local utilities.
- Government subsidy programs may stifle the desire of client utilities for innovation because such funding is often accompanied by intended and unintended restrictions to innovations.
- The association greatly doubts that federal grant funds would come with no restrictions and

- remembers the problems that existed in this regard with the construction grants program.
- Any grants provided by the federal government should also be strictly and closely tied to affordability.

#### **Steve Allbee, U.S. EPA, Office of Water**

- Capital spending on water and wastewater systems maintenance has not been, and is not, adequate. Such spending is flat.
- Water and wastewater systems are facing increasing affordability problems.
- The country (and the industry) are not investing enough in research. More dollars are needed for both research and investment.
- A major pathway decision on the approach to addressing the infrastructure challenge must be made soon.
- There is a need for a fiscal partnership as no single party can adequately address the challenge.
- Improved asset management must be an important part of the answer as federal support will be limited.
- Efficiency improvements are needed and can be achieved.
- This problem calls for an approach that incorporates business-like sustainability and permanent federal support.
- There does not see a return to the construction grants mentality.
- There is a serious weakness in the fragmentation of information on the infrastructure financing problem.

#### **Meeting adjourned by George Ames**

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